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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648-XD330

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Breakwater Replacement Project in Eastport, Maine

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice; issuance of an incidental take authorization.

SUMMARY: In accordance with the Marine Mammal Protection Act (MMPA) regulations, notification is hereby given that NMFS has issued an Incidental Harassment Authorization (IHA) to the Maine Department of Transportation (ME DOT) to take, by harassment, small numbers of four species of marine mammals incidental to breakwater replacement project in Eastport, Maine, between October 1, 2014, through September 30, 2015.

DATES: Effective October 1, 2014, through September 30, 2015.

ADDRESSES: A copy of the application containing a list of the references used in this document, NMFS's Environmental Assessment (EA), Finding of No Significant Impact (FONSI), and the IHA may be obtained by telephoning the contact listed below (see FOR FURTHER INFORMATION CONTACT) or visiting the Internet at:

<http://www.nmfs.noaa.gov/pr/permits/incidental.htm#applications>.

Documents cited in this notice may be viewed, by appointment, during regular business hours, at 1315 East West Highway, Silver Spring, MD 20910.

FOR FURTHER INFORMATION CONTACT: Shane Guan, Office of Protected Resources, NMFS, (301) 427-8401.

SUPPLEMENTARY INFORMATION:

Background

Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 et seq.) direct the Secretary of Commerce to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are issued or, if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review.

An authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant), and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of such takings are set forth. NMFS has defined “negligible impact” in 50 CFR 216.103 as “an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.”

Except with respect to certain activities not pertinent here, the MMPA defines "harassment" as: any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild [Level A harassment]; or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption

of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering [Level B harassment].

Summary of Request

On February 21, 2014, NMFS received an application from ME DOT requesting an IHA for the take, by Level B harassment, of small numbers of harbor seals (*Phoca vitulina*), gray seals (*Halichoerus grypus*), harbor porpoises (*Phocoena phocoena*), and Atlantic white-sided dolphins (*Lagenorhynchus acutus*) incidental to in-water construction activities in Eastport, Maine. Upon receipt of additional information and a revised application, NMFS determined the application complete and adequate on May 6, 2014. On July 31, 2014, NMFS published a Federal Register notice (FR 79 44407) for the proposed IHA. No changes were made to the breakwater replacement work as described in the proposed IHA. Please refer to Federal Register notice for the proposed IHA for a detailed description of the project activities.

Comments and Responses

A notice of NMFS' proposal to issue an IHA to ME DOT was published in the Federal Register on July 31, 2014 (79 FR 44407). That notice described, in detail, ME DOT's activity, the marine mammal species that may be affected by the activity, and the anticipated effects on marine mammals. During the 30-day public comment period, NMFS received comments from the Marine Mammal Commission (Commission). All comments specific to ME DOT's application that address the statutory and regulatory requirements or findings NMFS must make to issue an IHA are addressed in this section of the Federal Register notice.

Comment 1: The Commission questions the Level A and B harassment zones presented in the Federal Register notice (79 FR 44407; July 31, 2014) for the proposed IHA. The zones presented by ME DOT, and subsequently adopted in the proposed IHA, were based on

measurements for the Ocean Renewable Power Company, LLC, (ORPC) pile driving of 30-in piles in much deeper water (26 – 32 m). However, the proposed ME DOT's breakwater replacement will have piles as large as 36-inch and in water depth much shallower (2.4 – 17 m). The Commission recommends NMFS refer to the California Department of Transportation pile driving measurement report (CALTRANS, 2009) for information regarding source levels of larger piles as well as modeled take zone sizes.

The Commission recommended that NMFS (1) require ME DOT to use exclusion zones greater than 10 m that are precautionary for pile driving using both the impact and downhole hammer and (2) consult with its analysts who have expertise in pile-driving activities and associated in-situ monitoring to determine the appropriate exclusion zones based on Level A harassment threshold of 180 dB re 1 μ Pa for 36-in piles installed using both an impact and down-hole hammer.

Response: After review of ME DOT's take zone calculation and comparing those with empirical measurements for equivalent piles, NMFS worked with ME DOT and recalculated the Level A and B harassment zones. Subsequently, ME DOT adopted CALTRANS pile driving measurement data of equivalent pile size (36-in diameter) in comparable environment to establish Level B harassment zones for impact and vibratory pile driving and Level A harassment zone for impact pile driving as recommended by NMFS. Although there is no Level A harassment zone for vibratory pile driving, ME DOT will voluntarily establish an exclusion zone for vibratory pile driving at 30 meters from the source. There are no empirical measures for pile driving using a downhole hammer, nevertheless, ME DOT proposes to establish a 333-meter exclusion zone and 1,000-meter zone of influence (ZOI) for downhole pile driving. This distance is based on the observation by Nedwell and Edwards'

(2002) measurements of pile driving attenuation in saltwater. These zones will be adjusted based on in-situ hydroacoustic monitoring and sound measurements. The updated initial exclusion zones and zones of influence (ZOIs) are provided in Table 1 below.

Table 1. Updated initial harassment zones

	Exclusion Zone (m)	Zone of Influence (m)
Impact Pile Driving	30	1,000
Vibratory Pile Driving	30	1,000
Downhole Pile Driving	333	1,000

Comment 2: The Commission also recommended that NMFS (1) consult with its analysts who have expertise in pile-driving activities and associated in-situ monitoring to estimate appropriate Level B harassment zones for (a) 36-in pipe piles installed using impact and down-hole hammers and vibratory hammers based on 160 and 120 dB re 1 μ Pa, respectively, (b) sheet piles installed using a vibratory hammer based on 120 dB re 1 μ Pa, and (c) sheet piles removed using either a vibratory extractor or underwater saw based on 120 dB re 1 μ Pa and (2) include those zones in the final IHA.

Response: For impact and vibratory pile driving, the initial harassment zones are provided in Table 1 above. For sheet piles removal using either a vibratory extractor or underwater saw based on 120 dB re 1 μ Pa, the initial zone are set to be 1000 m from the source. This distance will be updated based on hydroacoustic measurements. These zones are included in the final IHA issued to ME DOT.

Comment 3: The Commission recommended that NMFS (1) explicitly require ME DOT to conduct in-situ measurements of all activities (impact, down-hole, and vibratory installation of the 36-in piles and vibratory extraction and sawing of the sheet piles) and, (2)(a) consult with its analysts who have expertise in acoustic monitoring to determine the appropriate

methods for collecting the in-situ measurements and establishing the duration of data collection (e.g., 10 piles or sheets using each method) and (b) include those methods in the final IHA.

Response: NMFS agrees with the Commission that ME DOT and will require ME DOT to conduct in-situ measurements of all activities. However, NMFS does not agree with the Commission's recommendation of including specific in-situ measurement methods in the final IHA. Due to the timing of contractor bidding, ME DOT was not able to provide NMFS with detailed hydroacoustic measurement methods prior to NMFS's issuance of an IHA. Nevertheless, NMFS will review and approve the contractor acoustic data collection method before ME DOT begins in-water pile driving and removal activities.

Comment 4: The Commission recommends that NMFS explicitly require in the final IHA ME DOT to conduct in-situ measurements of any concurrent activities (impact, down-hole, and vibratory installation and vibratory extraction and sawing of the sheet piles) and adjust the individual Level A and B harassment zones accordingly.

Response: ME DOT will be required to conduct in-situ measurements of any concurrent activities (impact, down-hole, and vibratory installation and vibratory extraction and sawing of the sheet piles) and adjust the individual Level A and B harassment zones accordingly.

Comment 5: The Commission noted that the Federal Register notice for the proposed IHA indicated that ME DOT estimated the potential numbers of takes based on the maximum group size of animals observed during Ocean Renewable Power Company's (ORPC's) marine mammal observations multiplied by the maximum expected number of pile-driving and underwater-sawing days. However, the Commission points out that ME DOT's application and apparently the numbers included in Table 8 of the Federal Register notice for the proposed IHA were based on numbers of marine mammals observed by ORPC on an hourly basis for each

month scaled to ME DOT's assumed activity hours. The Commission recommends that NMFS authorize the estimated numbers of marine mammal takes for ME DOT activities based on the maximum group size of animals observed during ORPC's marine mammal observation effort multiplied by the maximum expected number of pile/sheet installation and sheet removal days, consistent with the ORPC incidental harassment authorization.

Response: NMFS worked with ME DOT and revised take estimates based on maximum group size as recommended by the Commission. The updated take numbers are provided in Table 2 below.

Table 2. Estimated Marine Mammal Takes by Level B Harassment

Common species name	Estimated Take by Level B Harassment	Abundance of Stock	Percentage of Stock Potentially Affected	Population Trend
Gray seal	456	Over 250,000 in western North Atlantic	0.18	increasing
Harbor seal		70,142 in western North Atlantic	0.65	N/A
Harbor porpoise	456	79,883 in Gulf of Maine/Bay of Fundy	0.57	N/A
Atlantic white-sided dolphin	76	48,819 in the western North Atlantic	0.16	N/A

Comment 6: The Commission noted that a minke whale was observed during ORPC marine mammal monitoring, but incidental taking of that species was not proposed. Accordingly, the Commission recommended that NMFS specify in its final IHA that ME DOT delay or cease pile installation or sheet removal/sawing if an animal(s) from any species or stock for which authorization has not been granted approaches or is observed within any of the Level B harassment zones and would not resume those activities until the animal(s) has been observed to leave the Level B harassment zone.

Response: NMFS agrees with the Commission's recommendation and included a condition in requiring ME DOT to delay or cease pile installation or sheet removal/sawing if an animal(s) from any species or stock for which authorization has not been granted approaches or is observed within any of the Level B harassment zones and would not resume those activities until the animal(s) has been observed to leave the Level B harassment zone.

Comment 7: The Commission recommended that NMFS require ME DOT to conduct monitoring out to the extent of the relevant Level B harassment zones for vibratory pipe pile installation, vibratory sheet pile installation, vibratory sheet extraction, and sheet sawing for at least the majority of time spent conducting each of the four activities.

Response: NMFS agrees with the Commission's recommendation and has included this condition in the final IHA.

Description of Marine Mammals in the Area of the Specified Activity

In the Federal Register notice (79 FR 44407; July 31, 2014) for the proposed IHA and in ME DOT's IHA application, it was identified that four marine mammal species under NMFS jurisdiction are likely to occur in the construction area: Parbor seal (Phoca vitulina), gray seal (Halichoerus grypus), harbor porpoise (Phocoena phocoena), and Atlantic white-sided dolphin (Lagenorhynchus acutus). There is no change on the information regarding the species in the vicinity of the construction area.

Potential Effects of the Specified Activity on Marine Mammals

The effects of underwater noise from in-water pile driving and pile removal associated with the Eastport breakwater construction activities in Eastport, Maine, has the potential to result in Level B (behavioral) harassment of marine mammal species and stocks in the vicinity of the action area. The Notice of Proposed IHA included a discussion of the effects of anthropogenic

noise on marine mammals, which is not repeated here. No instances of hearing threshold shifts, injury, serious injury, or mortality are expected as a result of the breakwater construction activities given the strong likelihood that marine mammals would avoid the immediate vicinity of the pile driving area.

Potential Effects on Marine Mammal Habitat

The primary potential impacts to marine mammals and other marine species are associated with elevated sound levels, but the project may also result in additional effects to marine mammal prey species and short-term local water turbidity caused by in-water construction due to pile removal and pile driving. These potential effects are discussed in detail in the Federal Register notice for the proposed IHA and are not repeated here.

Mitigation

In order to issue an incidental take authorization (ITA) under section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to such activity, and other means of effecting the least practicable impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such species or stock for taking for certain subsistence uses (where relevant).

For the proposed ME DOT Eastport breakwater construction activities, NMFS has required that ME DOT implement the following mitigation measures to minimize the potential impacts to marine mammals in the project vicinity.

Use of Noise Attenuation Devices

When using a diesel impact hammer to “proof” piles, ME DOT shall use sound absorption cushions and/or a bubble curtain to reduce hydroacoustic sound levels and avoid the

potential for marine mammal injury. Based on previous studies, sound attenuation devices are expected to reduce sound levels by at least 5 dB.

Exclusion Zones and Zones of Influence (ZOIs)

The purpose of the proposed exclusion zone is to prevent Level A harassment (injury) of any marine mammal species. During all in-water impact pile driving, ME DOT shall establish a preliminary marine mammal exclusion zone around each pile to avoid exposure to sounds at or above 180 dB. In addition, ME DOT shall establish ZOIs within which marine mammals will be exposed to noise levels that could cause Level B behavioral harassment. The received levels for Level B harassment from impact and downhole hammers is 160 dB re 1 μ Pa, and from vibratory hammer is 120 dB re 1 μ Pa. The preliminary distances of each zone based on the results of CALTRANS' hydroacoustic monitoring and NMFS recommendation are provided in Table 1 above.

Prior to commencing pile driving, ME DOT shall establish initial harassment zones based on Table 1. These zones shall later be verified by conducting hydroacoustic measurements of sound from in-water construction activities. The hydroacoustic monitoring plan would include the following elements: monitoring for dB (rms) levels at 10 m from the pile; monitoring at 100 m to proof the marine mammal monitoring areas; and real time reporting of noise levels to the construction team. ME DOT would provide NMFS with a report following completion of the hydroacoustic monitoring.

If hydroacoustic monitoring indicates that threshold isopleths are greater than the initial zones in Table 1, ME DOT would contact NMFS within 48 hours and make the necessary adjustments. Likewise, if threshold isopleths are actually less than originally calculated, downward adjustments may be made to the exclusion zones and/or ZOIs.

The exclusion zone would be monitored continuously to ensure that no marine mammals enter the area. An exclusion zone for vibratory pile driving and underwater sawing is unnecessary as source levels would not exceed the Level A harassment threshold.

Shutdown and Delay Procedures

If a PSO sees a marine mammal within or approaching the exclusion zone prior to start of impact pile driving, the observer would notify the on-site project lead (or other authorized individual) who would then be required to delay pile driving until the marine mammal has moved out of the exclusion zone or if the animal has not been resighted within 30 minutes. If a marine mammal is sighted within or on a path toward the exclusion zone during pile driving, pile driving would cease until that animal has moved out of the exclusion zone or 30 minutes has lapsed since the last sighting.

In addition, although it is unlikely, if a marine mammal that is not covered under the IHA is sighted in the vicinity of the project area and is about to enter the ZOI, ME DOT shall implement shutdown measures to ensure that the animal is not exposed to noise levels that could result a take.

Soft-start Procedures

A “soft-start” technique shall be used at the beginning of each pile installation and each use of the underwater saw to allow any marine mammal that may be in the immediate area to leave before the pile hammer reaches full energy or saw begins sawing. For vibratory pile driving, the soft-start procedure requires contractors to initiate noise from the vibratory hammer for 15 seconds at 40-60 percent reduced energy followed by a 1-minute waiting period. The procedure would be repeated two additional times before full energy may be achieved. For impact hammering, contractors would be required to provide an initial set of three strikes from

the impact hammer at 40 percent energy, followed by a 1-minute waiting period, then two subsequent three-strike sets. For operating the underwater saw, contractors would be required to turn on the saw 3 or 4 times for 2 to 3 seconds each time over the course of 30 seconds. Soft-start procedures would be conducted any time hammering ceases for more than 30 minutes.

Mitigation Conclusions

NMFS has carefully evaluated the applicant's proposed mitigation measures and considered a range of other measures in the context of ensuring that NMFS prescribes the means of effecting the least practicable impact on the affected marine mammal species and stocks and their habitat. Our evaluation of potential measures included consideration of the following factors in relation to one another:

- The manner in which, and the degree to which, the successful implementation of the measure is expected to minimize adverse impacts to marine mammals.
- The proven or likely efficacy of the specific measure to minimize adverse impacts as planned.
- The practicability of the measure for applicant implementation.

Any mitigation measure(s) prescribed by NMFS should be able to accomplish, have a reasonable likelihood of accomplishing (based on current science), or contribute to the accomplishment of one or more of the general goals listed below:

(1) Avoidance or minimization of injury or death of marine mammals wherever possible (goals 2, 3, and 4 may contribute to this goal).

(2) A reduction in the numbers of marine mammals (total number or number at biologically important time or location) exposed to received levels of pile driving and pile

removal or other activities expected to result in the take of marine mammals (this goal may contribute to 1, above, or to reducing harassment takes only).

(3) A reduction in the number of times (total number or number at biologically important time or location) individuals would be exposed to received levels of pile driving and pile removal, or other activities expected to result in the take of marine mammals (this goal may contribute to 1, above, or to reducing harassment takes only).

(4) A reduction in the intensity of exposures (either total number or number at biologically important time or location) to received levels of pile driving, or other activities expected to result in the take of marine mammals (this goal may contribute to a, above, or to reducing the severity of harassment takes only).

(5) Avoidance or minimization of adverse effects to marine mammal habitat, paying special attention to the food base, activities that block or limit passage to or from biologically important areas, permanent destruction of habitat, or temporary destruction/disturbance of habitat during a biologically important time.

(6) For monitoring directly related to mitigation – an increase in the probability of detecting marine mammals, thus allowing for more effective implementation of the mitigation.

Based on our evaluation of the applicant's proposed measures, as well as other measures considered by NMFS, NMFS has determined that the proposed mitigation measures provide the means of effecting the least practicable impact on marine mammals species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.

Monitoring and Reporting

In order to issue an ITA for an activity, section 101(a)(5)(D) of the MMPA states that NMFS must set forth, “requirements pertaining to the monitoring and reporting of such taking.” The MMPA implementing regulations at 50 CFR 216.104 (a)(13) indicate that requests for ITAs must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present in the proposed action area. USCG submitted a marine mammal monitoring plan as part of the IHA application. It can be found at <http://www.nmfs.noaa.gov/pr/permits/incidental.htm>. The plan may be modified or supplemented based on comments or new information received from the public during the public comment period.

Monitoring measures prescribed by NMFS should accomplish one or more of the following general goals:

(1) An increase in the probability of detecting marine mammals, both within the mitigation zone (thus allowing for more effective implementation of the mitigation) and in general to generate more data to contribute to the analyses mentioned below;

(2) An increase in our understanding of how many marine mammals are likely to be exposed to levels of pile driving that we associate with specific adverse effects, such as behavioral harassment, TTS, or PTS;

(3) An increase in our understanding of how marine mammals respond to stimuli expected to result in take and how anticipated adverse effects on individuals (in different ways and to varying degrees) may impact the population, species, or stock (specifically through effects on annual rates of recruitment or survival) through any of the following methods:

- Behavioral observations in the presence of stimuli compared to observations in the absence of stimuli (need to be able to accurately predict received level, distance from source, and other pertinent information);
- Physiological measurements in the presence of stimuli compared to observations in the absence of stimuli (need to be able to accurately predict received level, distance from source, and other pertinent information);
- Distribution and/or abundance comparisons in times or areas with concentrated stimuli versus times or areas without stimuli;

(4) An increased knowledge of the affected species; and

(5) An increase in our understanding of the effectiveness of certain mitigation and monitoring measures.

Monitoring Measures

Hydroacoustic monitoring shall be performed using appropriate method reviewed and approved by NMFS at the initial installation of each pile driving and pile extraction method and underwater sawing to ensure that the harassment isopleths are not extending past the initial distances established and to assess the efficiency of the sound attenuation devices.

In addition, ME DOT shall conduct in-situ hydroacoustic measurements of any concurrent activities (impact, down-hole, and vibratory installation and vibratory extraction and sawing of the sheet piles) and adjust the individual Level A and B harassment zones accordingly.

For visual monitoring of marine mammals, ME DOT shall designate two biologically-trained, on-site protected species observers (PSOs), approved in advance by NMFS, to monitor the exclusion zone (preliminarily set at 30 m) for marine mammals 30 minutes before, during, and 30 minutes after all impact pile driving activities and call for shut down if any marine

mammal is observed within or approaching the exclusion zone. These PSOs would be positioned on the pier. One observer would survey inwards toward the pile driving site and the second observer would conduct behavioral monitoring outwards to a distance of 1 km during all impact pile driving.

PSOs shall provide 100% coverage for marine mammal exclusion zones and conduct monitoring out to the extent of the relevant Level B harassment zones for vibratory pile driving, vibratory sheet pile driving, vibratory sheet pile extraction, and sheet sawing for at least the majority of time spent (> 50%) conducting each of the four activities.

PSOs shall be provided with the equipment necessary to effectively monitor for marine mammals (for example, high-quality binoculars, compass, and range-finder as well as a digital SLR camera with telephoto lens and video capability) in order to determine if animals have entered into the exclusion zone or Level B harassment isopleth and to record species, behaviors, and responses to pile driving.

Reporting

ME DOT is required to submit a report to NMFS within 90 days of completion of in-water construction activities. The report would include data from marine mammal sightings (such as date, time, location, species, group size, and behavior), any observed reactions to construction, distance to operating pile hammer, and construction activities occurring at time of sighting and environmental data for the period (wind speed and direction, Beaufort sea state, cloud cover, and visibility).

In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner prohibited by the IHA (if issued), such as an injury (Level A harassment), serious injury, or mortality, ME DOT would immediately cease the specified activities and

immediately report the incident to the Permits and Conservation Division, Office of Protected Resources, NMFS, at 301-427-8401 and/or by email to Jolie.Harrison@noaa.gov and Shane.Guan@noaa.gov and the Greater Atlantic Regional Fisheries Office Stranding Coordinator (Mendy.Garron@noaa.gov). The report must include the following information:

- Time, date, and location (latitude/longitude) of the incident;
- Name and type of vessel involved;
- Vessel's speed during and leading up to the incident;
- Description of the incident;
- Status of all sound source use in the 24 hrs preceding the incident;
- Water depth;
- Environmental conditions (e.g., wind speed and direction, Beaufort sea state, cloud cover, and visibility);
- Description of all marine mammal observations in the 24 hrs preceding the incident;
- Species identification or description of the animal(s) involved;
- Fate of the animal(s); and
- Photographs or video footage of the animal(s) (if equipment is available).

Activities would not resume until NMFS is able to review the circumstances of the prohibited take. NMFS would work with ME DOT to determine what is necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. ME DOT may not resume their activities until notified by NMFS via letter, email, or telephone.

In the event that ME DOT discovers an injured or dead marine mammal, and the lead PSO determines that the cause of the injury or death is unknown and the death is relatively recent (i.e., in less than a moderate state of decomposition as described in the next paragraph), ME

DOT would immediately report the incident to the Permits and Conservation Division, Office of Protected Resources, NMFS, at 301-427-8401, and/or by email to Jolie.Harrison@noaa.gov and Shane.Guan@noaa.gov and the Greater Atlantic Regional Fisheries Office Stranding Coordinator at 978-281-9300 (Mendy.Garron@noaa.gov). The report must include the same information identified in the paragraph above. Activities may continue while NMFS reviews the circumstances of the incident. NMFS would work with ME DOT to determine whether modifications in the activities are appropriate.

In the event that ME DOT discovers an injured or dead marine mammal, and the lead PSO determines that the injury or death is not associated with or related to the activities authorized in the IHA (e.g., previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), ME DOT would report the incident to the Permits and Conservation Division, Office of Protected Resources, NMFS, at 301-427-8401, and/or by email to Jolie.Harrison@noaa.gov and Shane.Guan@noaa.gov and the NMFS Stranding Hotline (866-755-6622) and/or by email to the Greater Atlantic Regional Fisheries Office Stranding Coordinator (Mendy.Garron@noaa.gov), within 24 hrs of the discovery. ME DOT would provide photographs or video footage (if available) or other documentation of the stranded animal sighting to NMFS and the Marine Mammal Stranding Network. Activities may continue while NMFS reviews the circumstances of the incident.

Estimated Take of Incidental Harassment

Except with respect to certain activities not pertinent here, the MMPA defines "harassment" as: any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild [Level A harassment]; or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption

of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering [Level B harassment].

As discussed above, in-water pile driving (vibratory and impact) and pile removal generate loud noises that could potentially harass marine mammals in the vicinity of the ME DOT's proposed Eastport breakwater replacement project.

Currently, NMFS uses 120 dB re 1 μ Pa and 160 dB re 1 μ Pa at the received levels for the onset of Level B harassment for non-impulse (vibratory pile driving and removal) and impulse sources (impact pile driving) underwater, respectively. Table 3 summarizes the current NMFS marine mammal take criteria.

Table 3. Current Acoustic Exposure Criteria for Non-explosive Sound

Criterion	Criterion Definition	Threshold
Level A Harassment (Injury)	Permanent Threshold Shift (PTS) (Any level above that which is known to cause TTS)	180 dB re 1 μ Pa (cetaceans) / 190 dB re 1 μ Pa (pinnipeds) root mean square (rms)
Level B Harassment	Behavioral Disruption (for impulse noises)	160 dB re 1 μ Pa (rms)
Level B Harassment	Behavioral Disruption (for non-impulse noise)	120 dB re 1 μ Pa (rms)

Distances to NMFS' harassment thresholds were calculated based on the expected sound levels at each source and the expected attenuation rate of sound (Table 1). The 30-m distance to the Level A harassment threshold provides PSOs plenty of time and adequate visibility to prevent marine mammals from being exposed to sound levels that reach the Level A harassment threshold during impact pile driving.

The estimated number of marine mammals potentially taken is based on ORPC's marine mammal monitoring observations between 2007 and 2010. Based on marine mammal sightings during that period, further consultation between ORPC and NMFS, and the estimated number of

pile driving and underwater sawing days for the Eastport Breakwater project, ME DOT requests authorization for the incidental take of 456 seals (because they cannot always be identified to the species-level), 456 harbor porpoises, and 76 Atlantic white-sided dolphins. The estimated take is based on the maximum group size of animals observed during ORPC's marine mammal observations multiplied by the maximum expected number of pile driving and underwater sawing days.

Analysis and Determinations

Negligible Impact

Negligible impact is “an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival” (50 CFR 216.103). A negligible impact finding is based on the lack of likely adverse effects on annual rates of recruitment or survival (i.e., population-level effects). An estimate of the number of Level B harassment takes, alone, is not enough information on which to base an impact determination. In addition to considering estimates of the number of marine mammals that might be “taken” through behavioral harassment, NMFS must consider other factors, such as the likely nature of any responses (their intensity, duration, etc.), the context of any responses (critical reproductive time or location, migration, etc.), as well as the number and nature of estimated Level A harassment takes, the number of estimated mortalities, and effects on habitat.

ME DOT's proposed Eastport breakwater replacement project would involve pile driving and removal activities as well as the use of an underwater saw. Elevated noise levels are expected to be generated as a result of these activities. However, ME DOT would use noise attenuation devices (e.g., pile cushions, bubble curtains) during impact pile driving to ensure that

sound levels of 180 dB (rms) do not extend more than 10 m from the pile, which eliminates the potential for injury (PTS) and TTS. Given the required mitigation and monitoring, no injuries or mortalities are anticipated to occur as a result of ME DOT's proposed action in Eastport, and none are proposed to be authorized. In addition, as described above, marine mammals in the area would not be exposed to activities or sound levels which would result in hearing impairment (TTS or PTS) or non-auditory physiological effects. The small number of takes that are anticipated to occur would be limited to short-term Level B harassment.

In-water construction activities would occur in relatively shallow coastal waters of Cobscook Bay. The proposed project area is not considered significant habitat for marine mammals. Marine mammals approaching the action area would likely be traveling or opportunistically foraging. There are no rookeries or major haul-out sites nearby, foraging hotspots, or other ocean bottom structure of significant biological importance to marine mammals that may be present in the marine waters in the vicinity of the project area. The closest significant pinniped haul out is more than 6 nm away (ME DOT, pers. comm.), which is well outside the project area's largest harassment zone. The proposed project area is not a prime habitat for marine mammals, nor is it considered an area frequented by marine mammals. Therefore, behavioral disturbances that could result from anthropogenic noise associated with breakwater replacement activities are expected to affect only a small number of marine mammals on an infrequent basis. Although it is possible that some individual marine mammals may be exposed to sounds from in-water construction activities more than once, the duration of these multi-exposures is expected to be low since animals would be constantly moving in and out of the area and in-water construction activities would not occur continuously throughout the day.

Marine mammals may be temporarily impacted by noise from pile driving activities and the operation of an underwater saw. These low intensity, localized, and short-term noise exposures may cause brief startle reactions or short-term behavioral modifications by the animals. These reactions and behavioral changes are expected to subside quickly when the exposures cease. Moreover, marine mammals are expected to avoid the area during in-water construction because animals generally move away from active sound sources, thereby reducing exposure and impacts. In addition, through mitigation measures including soft start, marine mammals are expected to move away from a sound source that is annoying prior to its becoming potentially injurious, and detection of marine mammals by observers would enable the implementation of shutdowns to avoid injury, serious injury, or mortality. In-water construction activities involving pile driving and underwater sawing are expected to occur for about 12 days total each month. Repeated exposures of individuals to levels of sound that may cause Level B harassment are unlikely to result in hearing impairment or to significantly disrupt foraging behavior. Thus, even repeated Level B harassment of some small subset of an overall stock is unlikely to result in any significant realized decrease in fitness to those individuals, and thus would not result in any adverse impact to the stock as a whole. Level B harassment will be reduced to the level of least practicable impact through use of mitigation measures described herein and, if sound produced by project activities is sufficiently disturbing, animals are likely to simply avoid the project area while the activity is occurring.

Based on the application and subsequent analysis, the impact of the described in-water construction activities may result in, at most, short-term modification of behavior by small numbers of marine mammals within the action area. No injury, serious injury, or mortality is

expected to occur and due to the nature, degree, and context of the Level B harassment anticipated, the activity is not expected to impact rates of recruitment or survival.

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the proposed monitoring and mitigation measures, NMFS finds that the total marine mammal take from the Eastport breakwater replacement activity will have a negligible impact on the affected marine mammal species or stocks.

Small Numbers

The amount of take NMFS proposes to authorize is considered small (less than one percent) relative to the estimated populations of 70,142 harbor seals, 250,000 gray seals, 79,883 harbor porpoises, and 48,819 Atlantic white-sided dolphins. Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the mitigation and monitoring measures, NMFS finds that small numbers of marine mammals will be taken relative to the populations of the affected species or stocks.

Impact on Availability of Affected Species for Taking for Subsistence Uses

There are no relevant subsistence uses of marine mammals implicated by this action. Therefore, NMFS has determined that the total taking of affected species or stocks would not have an unmitigable adverse impact on the availability of such species or stocks for taking for subsistence purposes.

Endangered Species Act (ESA)

No species listed under the ESA are expected to be affected by these activities. Therefore, NMFS has determined that a section 7 consultation under the ESA is not required.

National Environmental Policy Act (NEPA)

In compliance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*), as implemented by the regulations published by the Council on Environmental Quality (40 CFR parts 1500-1508), and NOAA Administrative Order 216-6, NMFS prepared an Environmental Assessment (EA) to consider the environmental impacts of issuance of a one-year IHA. A Finding of No Significant Impact was signed on September 24, 2014.

Authorization

NMFS has issued an IHA to ME DOT for the potential harassment of small numbers of marine mammal species incidental to its Eastport breakwater replacement project Eastport, Maine, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated.

Dated: September 26, 2014.

Donna S. Wieting,
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